Alberta Environment

CODE OF PRACTICE FOR SAWMILL PLANTS

2006

developed under the Environmental Protection and Enhancement Act

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ALBERTA ENVIRONMENT

CODE OF PRACTICE FOR SAWMILL PLANTS (made under the *Environmental Protection and Enhancement Act*, RSA 2000, c.E-12, as amended and *Substance Release Regulation* (AR 124/93), as amended)

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PART 1: DEFINITIONS

1.1.1 All definitions in the Act and the regulations under the Act apply except where expressly defined in this Code of Practice.

1.1.2 In this Code of Practice:

(a) **"Act"** means the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c.E-12, as amended;

(b) **"air contaminant"** means any solid, liquid, or gas or combination of any of them in the atmosphere resulting directly or indirectly from activities at a sawmill plant;

(c) **"bottom ash"** means the product of wood waste combustion collected or retained from the bottom of a wood waste incinerator or of a thermal energy system;

(d) **"day"** means any consecutive 24-hour sampling period that reasonably represents a calendar day;

(e) **"existing sawmill plant"** means any sawmill plant that was in operation before November 17, 2006;

(f) **"existing sawmill plant with a major expansion"** means an existing sawmill plant that, on or after November 17, 2006, adds new capacity to a production line by some physical modification requiring capital investment, but does not include:

(i) the addition of a production shift;

(ii) adjustments, repairs, replacements or maintenance made in the normal course of operations;

(iii) changes that do not result in an increase in the release of a substance into the environment; or

(iv) short-term testing or temporary modifications to machinery, equipment or processes that do not cause an adverse effect;

(g) **"fugitive emissions"** means air contaminant emissions to the atmosphere originating from a sawmill plant source other than a flue or stack but does not include sources which may occur due to breaks or ruptures in process equipment;

(h) **"grab"** when referring to a sample, means an individual sample collected in less than 30 minutes and which is representative of the stream sampled;

(i) **"industrial runoff"** means surface water resulting from precipitation that falls on or traverses the plant developed area;

(j) **"industrial wastewater"** means the composite of liquid wastes and water-carried wastes, any portion of which results directly from an industrial process carried on at a sawmill plant;

(k) **"ISO 17025"** means the international standard, developed and published by International Organization for Standardization (ISO), specifying the management and technical requirements for laboratories;

(l) **"local environmental authority"** means the Department, in the Province of Alberta, or the agency that has the equivalent responsibilities for any jurisdiction outside the Province;

(m) **"month"** means calendar month;

(n) **"new sawmill plant"** means any sawmill plant means for which construction commences on or after November 17, 2006;

(o) **"plant developed area"** means the areas of the sawmill plant used for the storage, processing, or handling of raw material, intermediate product, by-product, finished product, process chemicals, or waste material;

(p) **"PM"** means particulate matter;

(q) **"$PM_{2.5}$"** means particulate matter that is less than 2.5 micrometres in diameter;

(r) **"PM_{10}"** means particulate matter that is less than 10 micrometres in diameter;

(s) **"professional engineer"** means a professional member or registered professional technologist (engineering) under the *Engineering, Geological and Geophysical Professions Act*;

(t) **"regulations"** means the regulations under the Act;

(u) **"sawmill plant"** means all buildings, structures, process and pollution abatement equipment, planer mills, log yards, wood waste incinerators, thermal energy systems and storage facilities used in and for the processing of wood, or associated with the processing of wood, including the land, other than undeveloped land, that is used for the processing of wood, where the sawmill plant produces more than 20 million foot board measures of lumber annually, and

(i) is fixed to one location, or

(ii) is operated at any one location for a total of more than 365 days in 2 consecutive calendar years;

(v) **"shutdown"** means the time after the cutoff of feed;

(w) **"start-up"** means the initial introduction of material, or electrical or thermal energy, with the simultaneous production of products for which the plant was designed;

(x) **"thermal energy system"** means a system that is designed to burn wood waste and recover the heat of the combustion, where the system

(i) has a rated production output of no more than 10 megawatts of electricity or its steam equivalent under peak load, and

(ii) uses only wood waste generated at that sawmill plant as fuel;

(y) **"this Code of Practice"** means the *Code of Practice for Sawmill Plants*, published by the Department, as amended;

(z) **"urban area"** means all land within the boundaries of a city, town, or village;

(aa) **"week"** means any consecutive 7-day period;

(bb) **"wood ash"** means the product of wood waste combustion collected or retained by a thermal energy system pollution abatement equipment;

(cc) **"wood waste"** means any discarded non-treated wooden material; and

(dd) **"wood waste incinerator"** means any unit of the plant designed to destroy wood waste by burning in burners, including but not limited to beehive burners or silo burners.

PART 2: GENERAL REQUIREMENTS

2.1.1 Any registration holder who constructs, operates or reclaims a sawmill plant must do so in accordance with this Code of Practice.

2.1.2 Any conflict between the application and the terms and conditions of this Code of Practice shall be resolved in favour of this Code of Practice.

2.1.3 The terms and conditions of this Code of Practice do not affect or negate any other requirements under the Act, the regulations or any other applicable legislation.

2.1.4 The terms and conditions of this Code of Practice do not affect any rights or obligations created under any other authorization issued by the Department.

2.1.5 The terms and conditions of this Code of Practice are severable. If any term or condition of this Code of Practice or the application of any term or condition is held invalid, the application of such term or condition to other circumstances and to the remainder of this Code of Practice shall not be affected by that invalidity.

2.1.6 If the registration holder monitors for any substances or parameters which are the subject of limits in this Code of Practice more frequently than is required, using procedures authorized in this Code of Practice, then the registration holder shall provide the results of such monitoring as an addendum to the next reports required by this Code of Practice.

2.1.7 The registration holder shall immediately notify the Director in writing if any of the following events occurs:

(a) the registration holder is served with a petition into bankruptcy;

(b) the registration holder files an assignment in bankruptcy or Notice of Intent to make a proposal;

(c) a receiver or receiver-manager is appointed;

(d) an application for protection from creditors is filed for the benefit of the registration holder under any creditor protection legislation; or

(e) any of the assets which are the subject matter of this Code of Practice are seized for any reason.

SECTION 2.2: Analytical Requirements

2.2.1 With respect to any monitoring required pursuant to this Code of Practice, the registration holder shall:

(a) collect;

(b) preserve;

(c) store;

(d) handle; and

(e) analyze

all samples in accordance with the following unless otherwise authorized in writing by the Director:

(i) for air monitoring:

(A) the *Alberta Stack Sampling Code REF. 89* (1995), published by Alberta Environment, as amended;

(B) the *Methods Manual for Chemical Analysis of Atmospheric Pollutants*, AEC V93-M1 (1993), published by Alberta Environment, as amended; or

(C) the *Air Monitoring Directive* (1989), published by Alberta Environment, as amended or replaced;

(ii) for water monitoring:

(A) the *Standard Methods for the Examination of Water and Wastewater* (2005), published by the American Public Health Association, the American Waterworks Association and the Water Environment Federation, as amended; or

(B) the *Methods Manual for Chemical Analysis of Water and Wastes* (1996), published by the Alberta Research Council, as amended.

2.2.2 The registration holder shall analyze all samples that are required to be obtained by this Code of Practice in a laboratory accredited pursuant to ISO 17025 standard, as amended, for the specific parameter(s) to be analyzed, unless otherwise authorized in writing by the Director.

2.2.3 The registration holder shall comply with the terms and conditions of any written authorization issued by the Director under 2.2.2.

PART 3: REGISTRATION APPLICATION/ADMINISTRATION REQUIREMENTS

SECTION 3.1: Application for Registration

3.1.1 An application for registration of a proposed new sawmill plant shall contain at a minimum, the following information:

(a) all information set out in Schedule 1; and

(b) any other information requested by the Director.

SECTION 3.2: Air Quality Modelling Information

3.2.1 At least three (3) months before the installation of a new thermal energy system, the registration holder shall:

(a) conduct air quality modelling at the sawmill plant that

(i) models all anticipated air emission sources at the sawmill plant; and

(ii) is conducted in accordance with the models for particulate matter in the *Alberta Air Quality Model Guidelines* (2003), published by Alberta Environment, (Publication T/689) as amended; and

(b) submit to the Director a report containing, at a minimum,

(i) the results of air quality modelling, and

(ii) a comparison of the modelling results with the $PM_{2.5}$ ambient air quality limits in the *Alberta Ambient Air Quality Objectives*, published by Alberta Environment, as amended.

SECTION 3.3: Reporting of Changes

3.3.1 In addition to any reporting under this Code of Practice, the Act and the regulations, the registration holder shall inform the Director in writing within three (3) months after any change to the information submitted to the Director in an application respecting the sawmill plant.

3.3.2 The information submitted under 3.3.1 shall include, at a minimum, all of the following information:

(a) a description of the change;

(b) a description of the change in emissions or releases resulting from the change; and

(c) a description of pollution abatement equipment installed or to be installed as a result of the change.

PART 4: AIR REQUIREMENTS

SECTION 4.1: General Air Requirements

4.1.1 The registration holder shall not release any effluent streams to the atmosphere except as authorized in this Code of Practice.

4.1.2 The registration holder shall release effluent streams to the atmosphere only from the following sources, as designated in the application:

(a) wood waste incinerator;

(b) drying kiln exhaust(s);

(c) sawmill dust collection system;

(d) planer mill dust collection system;

(e) log deck;

(f) the dry fuel silo;

(g) natural gas fired heaters;

(h) building ventilation fan exhaust(s);

(i) chip handling and conveying system;

(j) shaving bins;

(k) fuel pellet system;

(l) thermal energy system;

(m) green fuel bins; and

(n) any other specific sources identified and designated in the application.

4.1.3 The registration holder shall not release fugitive emissions or any substance from any source not specified in 4.1.2, that causes or may cause any of the following:

(a) impairment, degradation of alteration of the quality of natural resources;

(b) material discomfort, harm or adverse effect of the well being or health of a person; or

(c) harm to property or to plant or animal life.

4.1.4 The registration holder shall:

(a) record the following information on a monthly basis,

(i) total hours of operation of each piece of process equipment;

(ii) total hours of operation of each piece of pollution abatement equipment; and

(iii) total hours of shutdown and start-up; and

(b) compile the information in (a) on a monthly basis.

4.1.5 The registration holder shall:

(a) not operate the process equipment unless and until all the pollution abatement equipment associated with the process equipment is:

(i) fully operational; and

(ii) operating; and

(b) for the purposes of (a)(ii), operate all the pollution abatement equipment at least 97.5% of the time that the process equipment is operating, measured on a monthly basis.

4.1.6 Each thermal energy system stack shall be equipped with a stack sampling port which complies with the *Alberta Stack Sampling Code*, (1995), published by Alberta Environment, as amended.

4.1.7 Within six (6) months after the date this Code of Practice comes into effect or within six (6) months after the new sawmill plant commences operation, the registration holder shall implement a program with respect to the ongoing calibration of the monitoring systems and pollution abatement equipment in accordance with the following:

(a) the *Air Monitoring Directive* (1989), published by Alberta Environment, as amended; and

(b) this Code of Practice; or

(c) the manufacturer's instructions.

4.1.8 The registration holder shall calibrate the temperature sensor at the top of the wood waste incinerator at least once every three months.

4.1.9 Effective on the date the Code of Practice comes into effect, the registration holder shall not construct any new wood waste incinerator, and nothing in this Code of Practice affects or negates this prohibition.

4.1.10 The registration holder shall not operate any wood waste incinerator, effective on:

(a) January 1, 2008 in urban areas; and

(b) January 1, 2015 in rural areas;

and nothing in this Code of Practice affects or negates this prohibition.

4.1.11 The registration holder shall:

(a) monitor the exhaust gas temperature on a continuous basis at the top of the wood waste incinerator, at all times that the wood waste incinerator is in operation; and

(b) continuously record the temperature monitored in (a).

4.1.12 The registration holder shall:

(a) operate the wood waste incinerator only when the temperature sensor at the top of the wood waste incinerator is:

(i) fully operational; and

(ii) operating; and

(b) for the purposes of (a)(ii), operate the temperature sensor at least 95% of the time that the wood waste incinerator is operating, measured on a monthly basis.

4.1.13 The registration holder shall not burn any waste in any open fire except in accordance with this Code of Practice.

4.1.14 No log yard debris shall be burned in an open fire unless:

(a) the debris:

(i) consists only of logs, log pieces, bark or other wood waste from the log yard; and

(ii) is untreated and uncontaminated by any other substance; and

(b) the burning does not occur in an urban area.

4.1.15 Burning of log yard debris in an open fire shall be conducted in the following manner:

(a) the burning shall not occur on more than:

(i) three (3) consecutive days; and

(ii) a total of five (5) days;

in any calendar year;

(b) the registration holder shall employ a person on-site at the scene of the burning who is responsible for monitoring the burning at all times when burning is occurring;

(c) the registration holder shall inform local authorities before the burning is to take place;

(d) the registration holder shall record information regarding the burning, and prepare and update a report for the duration of the burning; and

(e) the report in (d) shall contain, at a minimum, all of the following information:

(i) the date of commencement of the burning;

(ii) the quantity and type of wood waste burned during the burning;

(iii) the action taken to reclaim or clean up the burning location;

(iv) the date the burning was completed;

(v) the duration of the burning;

(vi) any incidents where excessive smoke has occurred; and

(vii) a record of any complaints regarding the burn and the action that was taken to address those complaints.

4.1.16 The registration holder shall comply with shall meet the requirements of Section 4.2, 4.3, 4.4 or 4.5 as applicable for each release to the atmosphere of effluent streams from any source.

4.1.17 The registration holder shall monitor emissions from each:

(a) wood waste incinerator; and

(b) thermal energy system

in accordance with Section 4.6.

SECTION 4.2: Air Emission Limits for Existing Sawmill Plants

4.2.1 Until December 31, 2007, the registration holder shall comply with 4.2.2 through 4.2.6 for each existing sawmill plant except an existing sawmill plant with a major expansion.

4.2.2 Each:

(a) wood waste incinerator;

(b) thermal energy system;

(c) drying kiln exhaust;

(d) sawmill dust collection system;

(e) planer mill dust collection system;

(f) log deck;

(g) dry fuel silo;

(h) natural gas fired heaters;

(i) building ventilation fan exhaust(s);

(j) chip handling and conveying system;

(k) shaving bins;

(l) fuel pellet system;

(m) green fuel bins; and

(n) any other specific sources identified and designated in the application.

shall be:

(i) designed,

(ii) operated, and

(iii) maintained

so that the designed particulate matter release shall not exceed:

(A) 0.20 g PM per kg of effluent in urban areas; or

(B) 0.60 g PM per kg of effluent in rural areas.

4.2.3 The registration holder shall not exceed any of the following thermal energy system particulate matter release limits:

(a) 0.20 g PM per kg of effluent in urban areas; or

(b) 0.60 g PM per kg of effluent in rural areas.

4.2.4 The registration holder shall comply with the minimum temperature of 375° C at the top of the wood waste incinerator for at least 90% of the time that the wood waste incinerator is in operation each month, unless the following requirements have been met:

(a) the registration holder has provided the following information to the Director:

(i) documentation regarding the integrity and performance of the wood waste incinerator; and

(ii) full documentation tracing the management of all wood waste at the sawmill plant; or

(iii) an audit, performed by a third party, which documents the current management of all wood waste at the sawmill plant; and

(b) the Director has authorized in writing that the minimum temperature limit of 375° C at the top of the wood waste incinerator does not apply on the basis of the wood waste management practices that have been implemented at the sawmill plant, based on the information submitted under (a).

4.2.5 At all times during operation, the registration holder shall not exceed the visible emission limit of 40% opacity, averaged over a period of six consecutive minutes, for each source.

4.2.6 For the purposes of 4.2.4 and 4.2.5 :

(a) the wood waste incinerator, or thermal energy system or other source is not considered to be in operation during start up, and after shutdown; and

(b) start-up and shutdown periods shall last no more than one hour each in duration, and no more than two hours total in any 24-hour period.

SECTION 4.3: Air Emission Limits for Existing Sawmill Plants, Effective January 1, 2008

4.3.1 Effective January 1, 2008 until December 31, 2016, the registration holder shall comply with 4.3.2 through 4.3.9 for each existing sawmill plant except an existing sawmill plant with a major expansion.

4.3.2 Each:

(a) wood waste incinerator;

(b) thermal energy system;

(c) drying kiln exhaust;

(d) sawmill dust collection system;

(e) planer mill dust collection system;

(f) log deck;

(g) dry fuel silo;

(h) natural gas fired heaters;

(i) building ventilation fan exhaust(s);

(j) shaving bins;

(k) chip handling and conveying system;

(l) fuel pellet system;

(m) green fuel bins; and

(n) any other specific sources identified and designated in the application.

shall be:

(i) designed,

(ii) operated, and

(iii) maintained

so that the designed particulate matter release shall not exceed 0.20 g PM per kg of effluent.

4.3.3 The registration holder shall not exceed the particulate matter release limit of 0.20 g PM per kg of effluent for each thermal energy system.

4.3.4 Subject to 4.1.10(b), the registration holder shall not exceed the particulate matter release limit of 0.60 g PM per kg of effluent for each wood waste incinerator.

4.3.5 Subject to 4.1.10(b), the registration holder shall comply with the minimum temperature of 375° C at the top of the wood waste incinerator for at least 90% of the time that the wood waste incinerator is in operation each month, unless the following requirements have been met:

(a) the registration holder has provided the following information to the Director:

(i) documentation regarding the integrity and performance of the wood waste incinerator, and

(ii) full documentation tracing the management of all wood waste at the sawmill plant, or

(iii) an audit, performed by a third party, which documents the current management of all wood waste at the sawmill plant; and

(b) the Director has authorized in writing, based on the information submitted under (a), that the minimum temperature limit does not apply on the basis of the wood waste management practices that have been implemented at the sawmill plant.

4.3.6 At all times during operation, the registration holder shall not exceed a visible emissions limit of 10% opacity, averaged over a period of six consecutive minutes, for each:

(a) drying kiln exhaust;

(b) sawmill dust collection system;

(c) planer mill dust collection system;

(d) log deck;

(e) dry fuel silo;

(f) natural gas fired heaters;

(g) building ventilation fan exhaust(s);

(h) shaving bins;

(i) chip handling and conveying system;

(j) fuel pellet system;

(k) green fuel bins; and

(l) any other specific sources identified and designated in the application..

4.3.7 At all times during operation, the registration holder shall not exceed a visible emissions limit of 20% opacity, averaged over a period of six consecutive minutes, for each thermal energy system.

4.3.8 Subject to 4.1.10(b), at all times during operation, the registration holder shall not exceed a visible emissions limit of 40% opacity, averaged over a period of six consecutive minutes, for each wood waste incinerator located in a rural area.

4.3.9 For the purposes of 4.3.5, 4.3.6, 4.3.7 and 4.3.8:

(a) the wood waste incinerator, or thermal energy system or other source is not considered to be in operation during start up, and after shutdown; and

(b) start-up and shutdown periods shall last no more than one hour each in duration, and no more than two hours total in any 24-hour period.

SECTION 4.4: Air Emission Limits for Existing Sawmill Plants, Effective January 1, 2017

4.4.1 Effective January 1, 2017, the registration holder shall comply with 4.4.2 through 4.4.6 for each existing sawmill plant except an existing sawmill plant with a major expansion.

4.4.2 Each:

(a) thermal energy system;

(b) drying kiln exhaust;

(c) sawmill dust collection system;

(d) planer mill dust collection system;

(e) log deck;

(f) dry fuel silo;

(g) natural gas fired heaters;

(h) building ventilation fan exhaust(s);

(i) shaving bins;

(j) chip handling and conveying system;

(k) fuel pellet system;

(l) green fuel bins; and

(m) any other specific sources identified and designated in the application.;

shall be:

(i) designed,

(ii) operated, and

(iii) maintained

so that the designed particulate matter release shall not exceed 0.20 g PM per kg of effluent.

4.4.3 The registration holder shall not exceed a maximum particulate matter release limit of 0.09 g PM per kg of effluent for each thermal energy system.

4.4.4 At all times during operation, the registration holder shall not exceed a visible emissions limit of 10% opacity, averaged over a period of six consecutive minutes, for each:

(a) drying kiln exhaust;

(b) sawmill dust collection system;

(c) planer mill dust collection system;

(d) log deck;

(e) dry fuel silo;

(f) natural gas fired heaters;

(g) building ventilation fan exhaust(s);

(h) shaving bins;

(i) chip handling and conveying system;

(j) fuel pellet system;

(k) green fuel bins; and

(l) any other specific sources identified and designated in the application.

4.4.5 At all times during operation, the registration holder shall not exceed a visible emissions limit of 20% opacity, averaged over a period of six consecutive minutes, for each thermal energy system.

4.4.6 For the purposes of 4.4.4 and 4.4.5:

(a) a source is not considered to be in operation during start-up and after shutdown; and

(b) start-up and shutdown periods are considered no more than one hour each in duration, and not more than two hours total in any 24-hour period.

SECTION 4.5: Air Emission Limits for a New Sawmill Plant and an Existing Sawmill Plant with a Major Expansion

4.5.1 The registration holder shall comply with 4.5.2 through 4.5.6 for each new sawmill plant and each existing sawmill plant with a major expansion.

4.5.2 Releases into the atmosphere from each:

(a) wood waste incinerator;

(b) thermal energy system;

(c) drying kiln exhaust;

(d) sawmill dust collection system;

(e) planer mill dust collection system;

(f) log deck;

(g) dry fuel silo;

(h) natural gas fired heaters;

(i) building ventilation fan exhaust(s);

(j) shaving bins;

(k) chip handling and conveying system;

(l) fuel pellet system;

(m) green fuel bins; and

(n) any other specific sources identified and designated in the application.;

shall be:

(i) designed,

(ii) operated, and

(iii) maintained

so that the designed particulate matter release shall not exceed 0.09 g PM per kg of effluent.

4.5.3 The registration holder shall not exceed a maximum particulate matter release limit of 0.09 g PM per kg of effluent, for each thermal energy system.

4.5.4 At all times during operation, the registration holder shall not exceed a visible emissions limit of 10% opacity, averaged over a period of six consecutive minutes, for each:

(a) drying kiln exhaust;

(b) sawmill dust collection system;

(c) planer mill dust collection system;

(d) log deck;

(e) dry fuel silo;

(f) natural gas fired heaters;

(g) building ventilation fan exhaust(s);

(h) shaving bins;

(i) chip handling and conveying system;

(j) fuel pellet system;

(k) green fuel bins; and

(l) other specified sources identified and designated in the application.

4.5.5 At all times during operation, the registration holder shall not exceed a visible emissions limit of 20% opacity, averaged over a period of six consecutive minutes, for each thermal energy system.

4.5.6 For the purposes of 4.5.4 and 4.5.5:

(a) a source is not considered to be in operation during start-up and after shutdown; and

(b) start-up and shutdown periods are considered no more than one hour each in duration, and not more than two hours total in any 24-hour period.

SECTION 4.6: Air Monitoring Requirements

4.6.1 The registration holder shall conduct the monitoring as set out in TABLE 4.6-A.

TABLE 4.6-A: Monitoring Requirements

Emission source	Parameter	Frequency	Method of Monitoring	Sample Location
Wood waste incinerator	Temperature	Continuous	Thermocouple	Top of incinerator
Thermal energy system	Particulate Matter	Yearly	Manual Stack Survey	Stack

4.6.2 The registration holder shall notify the Director in writing, a minimum of two weeks prior to any manual stack survey required pursuant to 4.6.1.

4.6.3 The manual stack survey required pursuant to 4.6.1 shall be conducted:

(a) when the plant is operating at no less than 80% of its capacity; and

(b) in accordance with the *Alberta Stack Sampling Code*, (1995) published by Alberta Environment, as amended.

PART 5: WASTEWATER REQUIREMENTS

SECTION 5.1: Industrial Wastewater

5.1.1 Subject to 5.1.2, the registration holder shall not release industrial wastewater from the sawmill plant to the surrounding watershed.

5.1.2 The registration holder shall manage industrial wastewater consisting only of condensate from the kilns, only using one of the following methods:

(a) store and dispose the condensate off-site to a facility that is the subject of a valid approval, registration or as otherwise authorized under the Act, or to a facility approved by a local environmental authority outside of Alberta, authorizing the disposal of such industrial wastewater;

(b) treat and release the condensate in compliance with release limits specified in writing by the Director;

(c) directly release the condensate in compliance with a soil and groundwater monitoring program as authorized by the Director; or

(d) manage the condensate in accordance with a written authorization by the Director.

5.1.3 All aboveground storage tanks containing any process chemicals or industrial wastewater, including but not limited to condensate from kilns, shall be:

(a) constructed;

(b) operated; and

(c) maintained

in accordance with the *Guideline for Secondary Containment for Above Ground Storage Tanks* (1997), published by Alberta Environment, as amended.

5.1.4 The registration holder shall not install any underground storage tanks.

SECTION 5.2: Industrial Runoff

5.2.1 The registration holder shall:

(a) within six (6) months after the date this Code of Practice comes into effect, or, in the case of a new sawmill plant, prior to commencement of operation, document a Industrial Runoff Management Plan for the management and control of industrial runoff from wood storage areas;

(b) maintain the Industrial Runoff Management Plan; and

(c) annually update the Industrial Runoff Management Plan.

5.2.2 The registration holder shall

(a) maintain the Industrial Runoff Management Plan on-site; and

(b) make the Industrial Runoff Management Plan available to the Director, an inspector, or an investigator upon request.

5.2.3 The registration holder shall not release industrial runoff in a manner that may result in the industrial runoff entering any surface water within 500 metres of the sawmill plant unless otherwise authorized in writing by the Director.

5.2.4 Floating solids must not be present in industrial runoff except in trace amounts.

5.2.5 Visible foam must not be present in industrial runoff except in trace amounts.

5.2.6 Oil or other substances must not be present in industrial runoff in amounts sufficient to create a visible film or sheen.

5.2.7 At least once per month during the period of March 1 through to October 30, the registration holder shall visually inspect all areas of release on the perimeter of the plant developed area for any potential impacts of industrial runoff on the environment including, but not limited to any flooding, erosion, discoloration of vegetation, visible sheen, floating material or debris.

5.2.8 After each visual inspection conducted in accordance with 5.2.7, the registration holder shall:

(a) record and describe the location, size and type of impacts from industrial runoff;

(b) report any impacts of industrial runoff on the environment to the Director immediately upon discovery, including actions that will be taken to mitigate the impact;

(c) take actions to mitigate the impact; and

(d) retain records of the perimeter inspection of industrial runoff and all actions taken to address any potential impacts.

SECTION 5.3: Domestic Wastewater Operational Requirements

5.3.1 The registration holder shall release domestic wastewater generated at the plant only to:

(a) a private sewage disposal system that complies with the *Safety Codes Act* and its regulations, as amended, for treatment and release of domestic wastewater;

(b) a wastewater system that uses a wastewater lagoon that is the subject of a registration under the Act;

(c) a holding tank from which all domestic wastewater is transferred to a wastewater system that is the subject of an approval or registration under the Act; or

(d) a wastewater system that is the subject of a valid approval, or registration under the Act or a private sewage disposal system that complies with the Safety Codes Act and its regulations, where the owner(s) of the

wastewater system or the private sewage disposal system have provided prior written consent for the release.

5.3.2 The registration holder shall dispose of sludge produced by domestic wastewater management at the sawmill plant only at a facility that is the subject of an approval or registration under the Act to accept such waste.

5.3.3 The registration holder shall:

(a) construct; and

(b) operate

each domestic wastewater treatment plant in accordance with the *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems*, 2006, published by Alberta Environment, as amended.

SECTION 5.4: Domestic Wastewater Monitoring Requirements

Domestic Wastewater

5.4.1 The registration holder shall:

(a) monitor;

(b) measure; and

(c) maintain records of

the release of domestic wastewater from each wastewater lagoon as specified in Table 5.4-A.

5.4.2 The registration holder shall not discharge wastewater lagoon contents into the environment except between April 1st and November 30th in any particular year.

TABLE 5.4-A: Domestic Wastewater Lagoon Discharge Monitoring/Measuring Requirements

Parameters	Minimum Monitoring Frequency	Sampling Location	Sample Type
Total Flow (m^3/day)	Daily during discharge	Point at which treated wastewater is discharged from the wastewater lagoon	Estimate
Carbonaceous Biochemical Oxygen Demand	Once before discharge and once during discharge, after the first day of discharge	Point at which treated wastewater is discharged from the wastewater lagoon	Grab
Total Suspended Solids	Once during discharge, after the first day of discharge	Point at which treated wastewater is discharged from the wastewater lagoon	Grab

Groundwater

5.4.3 In addition to any other monitoring required pursuant to the Act, the regulations, or this Code of Practice, the registration holder shall conduct a groundwater monitoring program for each wastewater lagoon:

(a) where there was a requirement to conduct groundwater monitoring in the approval in effect just prior to the application of this Code of Practice to the particular wastewater system;

(b) that is new; or

(c) that has undergone a structural change that has the potential to affect the treatment.

5.4.4 The groundwater monitoring program shall:

(a) be designed by a professional engineer;

(b) be conducted in accordance with the design; and

(c) consist, at a minimum, of the following sampling:

for:

(i) a new wastewater lagoon or a lagoon that has undergone a structural change that has the potential to affect the treatment, obtain one sample from each groundwater monitoring well:

(A) prior to putting the new lagoon into operation; and

(B) within three months after the commencement of operation of the wastewater lagoon; and

(C) annually; and

(ii) a wastewater lagoon set out in 5.4.3(a), obtain the remainder of the samples required to complete the monitoring required under subsection 5.4.4(c)(i).

5.4.5 The registration holder shall analyze each sample obtained under the groundwater monitoring program for each of the following parameters:

(a) pH;

(b) conductivity;

(c) calcium;

(d) magnesium;

(e) total hardness;

(f) sodium;

(g) potassium;

(h) iron;

(i) total phosphorus;

(j) nitrate-nitrogen;

(k) nitrite-nitrogen;

(l) ammonia-nitrogen;

(m) chloride;

(n) fluoride;

(o) sulphate;

(p) carbonate;

(q) bicarbonate;

(r) total alkalinity;

(s) total dissolved solids (TDS);

(t) total Kjeldahl nitrogen (TKN); and

(u) chemical oxygen demand (COD).

5.4.6 In addition to the groundwater monitoring program required under 5.4.3, the registration holder shall take the following measurements at the location of each groundwater monitoring well:

(a) measure the depth to water at each groundwater monitoring well at the same time as monitoring is conducted pursuant to 5.4.3; and

(b) after the first year of operation of the wastewater lagoon, measure the depth to water at each groundwater monitoring well:

(i) immediately before wastewater lagoon discharge;

(ii) immediately after each wastewater lagoon discharge is complete; and

(iii) approximately one month after the end of each wastewater lagoon discharge.

5.4.7 The results of the groundwater monitoring shall be reviewed by a professional engineer for the purposes of determining any evidence of contamination of groundwater.

5.4.8 The registration holder shall immediately report to the Director any evidence of groundwater contamination as determined by the professional engineer pursuant to 5.4.7

PART 6: WASTE MANAGEMENT REQUIREMENTS

SECTION 6.1: General Waste Management

6.1.1 The registration holder shall:

(a) within six (6) months after this Code of Practice comes into effect, or, in the case of a new sawmill plant, prior to commencement of operation, document a Spill Response Plan for the sawmill plant;

(b) maintain the Spill Response Plan; and

(c) annually update the Spill Response Plan.

6.1.2 The registration holder shall not dispose of any waste to a wood waste incinerator or thermal energy system except:

(a) non-treated wood waste material generated from the operation of the sawmill plant or woodland operations;

(b) wastes consisting solely of paper;

(c) materials resulting from the clean-up of spills occurring during the operation of the sawmill plant or woodland operations; including no more than:

(i) 200 litres in volume of hydraulic and lubricating oils;

(ii) 200 litres in volume of fuel;

(iii) 5 litres in volume of engine oil; or

(iv) 20 litres in volume of antifreeze

per spill.

6.1.3 The registration holder shall not dispose of spilled waste in a wood waste incinerator or thermal energy systems in a manner that exceeds the total monthly volume limits in 6.1.2(c).

6.1.4 The registration holder shall dispose of waste generated at the sawmill plant only to:

(a) waste management facilities approved or registered under the Act to accept such waste; or

(b) facilities outside Alberta approved by a local environmental authority outside of Alberta to accept such waste.

6.1.5 The registration holder shall only:

(a) land spread bottom ash on the sawmill plant logyard if:

(i) the bottom ash meets all of the control limits set out in 6.1.6, as determined according to 6.1.6; and

(ii) the bottom ash is land spread in a manner that meets 6.1.8; or

(b) dispose of bottom ash at a landfill approved or registered under the Act to accept such waste.

6.1.6 The registration holder shall not land spread bottom ash unless the bottom ash quality meets all quality limits set out in Table 6.1-A.

TABLE 6.1-A: Bottom Ash Test Parameters, Methods and Quality Limits

Parameter	Test Method	Maximum Limit in mg of parameter/kg of bottom ash
Metals:		
Arsenic	U.S. EPA 3050 or 3051 and 6020	17
Barium	U.S. EPA 3050 or 3051 and 6010	750
Boron (Hot Water	McKeague 4.61 or 4.62 or 4.63	2

Parameter	Test Method	Maximum Limit in mg of parameter/kg of bottom ash
Soluble)	or Carter 12.2	
Cadmium	U.S. EPA 3050 or 3051 and 6010 or 6020	1.4
Chromium	U.S. EPA 3050 or 3051 and 6010 or 6020	64
Cobalt	U.S. EPA 3050 or 3051 and 6010 or 6020	20
Copper	U.S. EPA 3050 or 3051 and 6010 or 6020	63
Lead	U.S. EPA 3050 or 3051 and 6010 or 6020	70
Molybdenum	U.S. EPA 3050 or 3051 and 6010 or 6020	4
Nickel	U.S. EPA 3050 or 3051 and 6010	50
Selenium	U.S. EPA 3050 or 3051 and 6020	1
Vanadium	U.S. EPA 3050 or 3051 and 6010	130
Zinc	U.S. EPA 3050 or 3051 and 6010	200
Hydrocarbons:		
Benzo(a)pyrene	U.S. EPA 8270	0.069
Naphthalene	U.S. EPA 8270	0.069

6.1.7 The registration holder shall spread bottom ash on the sawmill plant logyard only in the following manner:

(a) bottom ash shall be applied in lifts of no more than 25 cm;

(b) bottom ash shall be applied in a manner so that dust does not blow off the sawmill plant; and

(c) bottom ash shall not be applied within 3 metres of any runoff ditches as designated in the Industrial Runoff Management Plan or watercourses in the log yard.

6.1.8 The registration holder shall only offer wood ash for use as a liming agent for agricultural soils if all the following conditions are met:

(a) the fuel used to create the wood ash meets the requirements of subsections:

(i) 2.2.1, and

(ii) 2.2.2

of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended or replaced from time to time;

(b) the wood ash meets the requirements of subsection:

(i) 2.3.1, and

(ii) 2.3.2

of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended or replaced from time to time;

(c) the registration holder has conducted all monitoring within:

(i) subsection 2.3.2, and

(ii) Table 2.1

of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended or replaced from time to time;

(d) the wood ash complies with subsection 2.4.1 of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended or replaced from time to time, with the exception of the control limit for boron;

(e) for wood ash that exceeds the control limit for boron as specified in subsection 2.4.1 of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended or replaced from time to time:

(i) the registration holder has calculated the soil lime requirement of the receiving agricultural soil and the ash acid neutralizing value;

(ii) the registration holder has

(A) measured, and

(B) recorded

the boron in the receiving soil and ash;

(iii) the registration holder has

(A) calculated, and

(B) recorded

the projected post-application boron concentration in the receiving soil; and

(iv) the projected post-application boron concentration in the soil shall not exceed the boron criterion from the *Alberta Tier I Criteria for Contaminated Soil Assessment and Remediation*, Alberta Environment, 1994, as amended or replaced from time to time,

(f) the registration holder has complied with all other portions of section 2 of the *Standards and Guidelines for the Use of Wood Ash as a Liming Material for Agricultural Soils*, Alberta Environment, 2002, as amended.

SECTION 6.2: Waste Management Record Keeping and Reporting Requirements

6.2.1 The registration holder shall:

(a) record; and

(b) maintain a record of:

(i) the volume of wood waste disposed of for each month;

(ii) the method and location used to dispose of the wood waste; and

(iii) the name of the person responsible for the disposal of the wood waste.

6.2.2 The registration holder shall retain records of all chemical analyses results for the bottom ash for five (5) years from their creation.

6.2.3 The registration holder shall retain records of the following information:

(a) the volume and locations, including stockpiles, of bottom ash spread in the sawmill plant log yard; and

(b) the locations and volume of bottom ash disposed of at all approved and registered landfills.

6.2.4 The registration holder shall keep records of wood ash use in accordance with the requirements of section 2.5 of the *Standards and Guidelines for the Use of Wood Ash as Liming Materials for Agricultural Soils* (2002), published by Alberta Environment, as amended.

PART 7: RECLAMATION REQUIREMENTS

7.1.1 Where the land surface has been disturbed during construction, expansion, modification or repair of the sawmill plant or any

portion of the sawmill plant, the registration holder shall reclaim the surface of land to equivalent land capability.

7.1.2 No person shall commence reclamation until that person has received written authorization from the Director for the reclamation.

7.1.3 Within six months after the sawmill plant permanently ceases operation, the registration holder shall submit a reclamation plan to the Director.

7.1.4 The reclamation plan shall contain, at a minimum, the following information:

(a) proposed plan for wastewater discharge and sludge management prior to reclamation;

(b) a proposal for reclaiming all disturbed land to equivalent land capability, or a proposal for reuse of the site;

(c) the depth of topsoil at the wastewater lagoon prior to construction or, in the absence of that pre-construction depth, the depth of undisturbed topsoil on property adjacent to the site of the lagoon, unless use of the site for industrial or subdivision purposes is proposed;

(d) a record of the location and quantity of:

(i) all spills;

(ii) bottom ash applied; and

(iii) bottom ash stockpiles

on the sawmill plant.

(e) a description of the status of, and proposed measures to address:

(i) the final use of the reclaimed areas;

(ii) the proposed depth of topsoil to be replaced;

(iii) the restoration of the original contours of the land;

(iv) erosion control;

(v) weed control; and

(vi) revegetation

of the wastewater lagoon site; and

(f) any other information required by the Director in writing.

7.1.5 The registration holder shall conduct reclamation in accordance with the reclamation plan, as authorized by the Director in writing.

7.1.6 Within one (1) year from the date of completion of reclamation, the registration holder shall submit a final reclamation report to the Director.

7.1.7 The final reclamation report required under 7.1.6 shall contain, at a minimum, the following information:

(a) a statement of whether the site has achieved equivalent land capability;

(b) if the site has not achieved equivalent land capability, an explanation of the reason;

(c) confirmation of whether the topsoil was replaced in accordance with the reclamation plan;

(d) a description of the final land use;

(e) a description of the land contours of the site;

(f) a statement of whether the original contours of the site have been restored;

(g) if the original contours of the site have not been restored, an explanation of the reason;

(h) a description of steps taken to control erosion;

(i) a statement of the degree of success of the erosion control steps and further steps that will be taken;

(j) a list of species used for revegetation;

(k) a description of the weed control measures undertaken; and

(l) any other information required by the Director in writing.

PART 8: REPORTING REQUIREMENTS

Contravention Reporting

8.1.1 In addition to any other reporting required pursuant to this Code of Practice, the Act, or the regulations under the Act, the registration holder shall immediately report to the Director any contravention of this Code of Practice, either:

(a) by telephone at (780) 422-4505; or

(b) by a method:

(i) in compliance with the release reporting provisions in the Act and the regulations; or

(ii) authorized in writing by the Director.

8.1.2 In addition to the immediate report in 8.1.1, the registration holder shall provide a report to the Director:

(a) in writing; or

(b) by a method:

(i) in compliance with the release reporting provisions in the Act and the regulations; or

(ii) authorized in writing by the Director

within seven (7) calendar days of the discovery of the contravention, or within a time period specified in writing by the Director, unless the requirement for the report is waived by the Director.

8.1.3 The report required under 8.1.2 shall contain, at a minimum, the following information:

(a) a description of the contravention;

(b) the date of the contravention;

(c) the duration of the contravention;

(d) the legal land description of the location of the contravention;

(e) an explanation as to why the contravention occurred;

(f) a summary of all preventive measures and actions that were taken prior to the contravention;

(g) a summary of all measures and actions that were taken to mitigate any effects of the contravention;

(h) a summary of all measures that will be taken to address any remaining effects and potential effects related to the contravention;

(i) the number of the registration issued under the Act for the sawmill plant, and the name of the person who held the registration at the time the contravention occurred;

(j) the name and address of the person(s) responsible for operating the equipment at the time of the spill or the person(s) directly involved in the spill;

(k) the name, address, phone number and responsibilities of all persons who had charge, management or control of the sawmill at the time that the contravention occurred;

(l) a summary of proposed measures that will prevent future contraventions, including a schedule of implementation for these measures;

(m) any information that was maintained or recorded under this Code of Practice, as a result of the incident; and

(n) any other information required by the Director in writing.

8.1.4 The registration holder shall immediately report to the Director any evidence of groundwater contamination resulting from operation of the sawmill plant.

PART 9: RECORD KEEPING REQUIREMENTS

9.1.1 The registration holder shall:

(a) record the following information:

(i) all records that are required to be created under this Code of Practice;

(ii) annual records for the following:

(A) the performance of air pollution assessment equipment;

(B) details of any modifications to the plant operations;

(C) an annual summary of the wood waste incinerator temperature measurements; and

(D) a summary of the actions taken by the registration holder to minimize and reduce atmospheric emissions;

(iii) a summary of the status and the results of any atmospheric emissions reduction reports and studies that the registration holder either participated in or conducted independently;

(iv) all results of calibration of the temperature sensor;

(v) the results of all visual inspections conducted pursuant to 5.2.7; and

(vi) total hours of operation of the equipment on a monthly basis, including hours of shutdown and startup;

(vii) description of the quantity and type of all waste incinerated, on a monthly basis;

(viii) description of all maintenance and repairs to pollution abatement equipment including:

(A) the date of the maintenance or repairs;

(B) description of the maintenance or repairs conducted;

(C) the name of the contractor, company or individual conducting the maintenance or repairs; and

(D) the signature of the person conducting the maintenance; and

(ix) all monitoring results required pursuant to this Code of Practice; and

(b) keep the records required in (a) available for five (5) years from the date the record is created.

9.1.2 The registration holder shall:

(a) retain copies of the following records:

(i) applications submitted to the Department for a registration;

(ii) engineering plans and drawings for the sawmill plant, including but not limited to the design specification of the pollution abatement equipment technology;

(iii) engineering plans and drawings for the wastewater system;

(iv) project reports;

(v) construction documents;

(vi) record drawings;

(vii) a copy of all inspection reports issued by the Department regarding the sawmill plant;

(viii) all annual reports;

(ix) all registrations issued under the Act for the sawmill plant;

(x) a copy of any written authorizations issued regarding the sawmill plant;

(xi) a copy of the reclamation plan required under 7.1.3 of this Code of Practice;

(xii) any correspondence sent to the Department; and

(b) make the records required under (a) available for the life of the sawmill plant.

9.1.3 The results and records in 9.1.1(a)(ix) shall contain, at a minimum, all of the following information:

(a) the date, location and time of monitoring, and the name of the person collecting the sample;

(b) date of analysis;

(c) laboratory name and person responsible for performing analysis;

(d) the analytical method used; and

(e) the results of the analysis.

9.1.4 Upon request, the registration holder shall immediately provide any records, reports or data regarding the sawmill plant to the Director or an inspector.

PART 10: CODE OF PRACTICE ADMINISTRATION

10.1.1 This Code of Practice will be reviewed as changes in technological or other standards warrant.

SCHEDULE 1
Registration Information

Pursuant to 3.1.1(a) of this Code of Practice, all of the following information shall be provided to the Director, unless otherwise specified in writing by the Director.

General Information Regarding the Sawmill Plant

1. name of person (company) that will construct, operate or reclaim the sawmill plant;
2. operating name;
3. mailing address;
4. phone number;
5. facsimile number;
6. email address;
7. legal land description;
8. contact person;
9. annual actual or anticipated production of the sawmill plant;
10. diagram showing the general layout of the facility, including but not limited to actual or proposed:
    (a) stack locations,
    (b) log yards,
    (c) wastewater discharge locations, and
    (d) locations of any groundwater monitoring wells;
11. date of proposed start for any new sawmill plant;

Sawmill and Planermill

12. description of emission sources, including, but not limited to:

    (a) location of stacks and vents,

    (b) air flow rates

    (c) stack diameters, and

    (d) exit air velocity;

13. abatement equipment on each source;

14. design specifications and manufacturer specifications for abatement technology;

Thermal Energy System

15. emission sources, including, but not limited to:

    (a) location of stacks and vents,

    (b) air flow rate,

    (c) stack diameters,

    (d) exit air velocity, and

    (e) exit air temperature;

16. abatement equipment on each source;

17. design specifications and manufacturer specifications for abatement technology;

18. wood ash disposal mechanisms;

19. for newly installed thermal energy systems, the results of air quality models, conducted in accordance with the *Alberta Air Quality Model Guidelines* (2003), published by Alberta Environment, (Publication T/689) as amended;

Drying Kiln

20. kiln capacity;

21. design specifications;

22. heating medium (air, oil, etc.); and

23. heat source;

Domestic Wastewater

24. method of domestic wastewater handling;

25. engineering design drawings and specifications for the wastewater system if a wastewater lagoon is used; and

26. number and locations of groundwater monitoring wells utilized for wastewater lagoon(s);

Industrial Runoff

27. Industrial Runoff Management Plan for the management and control of industrial runoff from wood storage areas (e.g. logs, chips, bark, sawdust, hogfuel), which shall include a consideration of the approaches set out in Section 8 of the *Assessment of Log Yard Runoff in Alberta*, (2002), published by Alberta Environment, as amended; and

Groundwater Monitoring

28. proposed groundwater monitoring program, designed by a professional engineer.